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In re Application of
FRAAS et al.

Serial No. 08/835,419

Art Unit: 1312

Filed: April 9, 1997

Examiner: T. McMahon

For: PRETREATMENT PROCESS TO REMOVE OXYGEN FROM COAL EN ROUTE TO
A COAL PYROLYSIS PROCESS AS A MEANS OF IMPROVING THE QUALITY
OF THE HYDROCARBON LIQUID PRODUCT

REPLY BRIEF

To the Commissioner of Patents and Trademarks

Sir:

In response to the Examiner's Answer mailed February 8,
1999, kindly consider the following:

Applicant appreciates the indicated allowability of claims
5, 10, 15, and 20.

Applicant relies on the Appeal Brief and the ongoing to show
that claims 1-4, 6-7, 9, 11-14, 16-19, 22, and 23 are patentable
under 35 U.S.C. 102(b) or in the alternative over 35 U.S.C.
103(a) over Selep et al. Claim 8 is also patentable over Selep.

As has been pointed out, Selep was relied on as teaching
"sweeping the coal with nitrogen followed by sweeping with
product gas and then with steam before gasification of the coal."
The Examiner postulates that even if any structural element or
process is not taught by Selep it "would have been obvious to add
such elements and steps to aid in gasification of the coal."

Selep describes passing coal through two rotary gas locks prior to gasification. Nitrogen is supplied to the inlet of the first rotary gas lock to prevent "oxygen-containing ambient air from entering first rotary lock" (col. 5, lines 14-15). After the nitrogen purge, the transferring compartments of the second rotary gas lock are swept with product gas to exhaust "buffer gas from said material transferring compartments" (column 7, lines 11-12).

While Selep may mention the use of a cover-gas, or buffer-gas, such as nitrogen or combustion products as a means for keeping air out of the system, the prime objective of Selep is to provide a means for raising the pressure of the gas-borne coal particles to the high pressure required for the coal conversion process. That has nothing to do with the claimed invention. Selep has no apparatus for preheating coal, nor an apparatus for removing oxygen from the coal. Since the cited reference does not disclose all the elements of the present invention, the reference cannot anticipate the present invention.

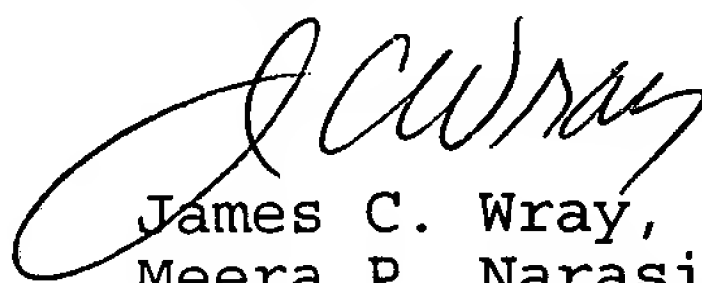
In the present invention, coal is supplied to a preheater. The unique pretreatment of the invention serves to remove oxygen, moisture and the majority of the fine particles inherent in the coal before it reaches the gasification stage. Sweep gas is used to carry off the released oxygen, moisture and fines prior to moving the coal to the pyrolysis stage. The unique prior removal of oxygen from the coal, that would otherwise have been produced in and hindered the pyrolysis stage, results in the production of

a liquid hydrocarbon with a much lower viscosity. Nothing in Selep describes, teaches, or suggests those claimed features.

Nothing in the prior art teaches or suggests the claimed features. Thus, the present claims cannot be anticipated nor rendered obvious by any reference.

Reversal of the Examiner and allowance of all the claims are respectfully requested.

Respectfully,



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